**202M   Vector Calculus (3+1) credit-hours.**

*Corequisite: 201M*

*C0urse description*

Vectors in two and three dimensions, scalar and vector products, equations of lines and planes in 3-dimensional space.  Surfaces of revolution an their equations in cylindrical and sperical coordinates. Vector  valued functions of a real variable, curves in space, curvature. Rates of change in tangent and normal directions, directional derivatives. Gradient of a function, equations of normal and tangent space to a surface at a point. Vector fields, divergence, curl of a vector, line and surface integrals. Green's theorem, Gauss' divergence theorem, Stockers' theorem.